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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
ADHAMI, MOHAMMAD SAJID	
ART UNIT	**PAPER NUMBER**
2662	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/029,356	RAJAGOPAL ET AL.	
	Examiner	Art Unit	
	Mohammad S. Adhami	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim is confusing in reference to "determining whether the current path is a sub-path of the first path". As understood from claim 1, the 1st path is comprised of the source node to a detour node and does not go to the destination, so it cannot be seen how the current path is a sub-path of the first path.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Pieda (US 6,882,627).

Re claim 1:

Pieda has a machine-implemented method of managing communications (Col. 1 line 8-10), where the method comprises identifying a current path from a source node to a destination node, identifying a detour path comprising a first and second path (Col. 2 line 13-15 and 24-25), and converting the detour path into an alternate path, which includes at least one current path segment that is different from the alternate path segments (Col. 8 lines 15-16).

Re claim 2:

Pieda has a method for converting a detour path into the alternate path by comparing the current segments with the detour segments, and determining if the first path is a sub-path of the current path (Col. 8 lines 7-17).

Re claim 3:

Pieda has a method for converting the detour path into the alternate path by concatenating the first and second path (Col. 10 lines 7-12).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 4-7, 10,11, 13, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pieda in view of Rhodes (US App. 10/095,862).

Re claim 4:

Pieda discloses storing values (Col. 5 lines 64-65) for one or more attributes of the current and alternate path.

Pieda fails to disclose receiving a service specification for a network communication and using either the current path or alternate path based on the service specification.

Rhodes discloses receiving a "service specification" and selecting either the current path or alternate path based on the service specification (Paragraph [0004]). Pieda and Rhodes are analogous because they both relate to communication routes.

It would have been obvious to one with ordinary skill in the art at the time of the invention to modify Pieda to receive a service specification and choose a path based on the specification as taught by Rhodes in order to provide more efficient network traffic flow.

Re claim 5 and 6:

[Claim 5] Pieda discloses the attributes mentioned to be jitter, latency, or bandwidth (Col. 6 lines 11-15).

Pieda fails to disclose using a "configurable" algorithm to compare service specifications.

Rhodes discloses [Claim 6] using a "configurable algorithm" to compare service specifications in order to choose a current path or alternate path

(Paragraph [0023]). Pieda and Rhodes are analogous because they both are related to communication routes.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Pieda to include a configurable algorithm to compare service specifications in order to choose a current path or alternate path as taught by Rhodes in order to choose the most efficient path for data transmission.

Re claim 7:

Pieda discloses "rerouting one or more flows affected by an identified segment failure" (Col. 1 lines 33-38).

Pieda fails to disclose identifying failure of a segment.

Rhodes discloses identifying failure of a segment (Paragraph [0030]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Pieda to include a method to identify failure of a segment as taught by Rhodes in order to centralize the steps in handling failed segments.

Re claims 10,17, and 18:

[Claims 10,17,18] Pieda discloses a machine-implemented method of managing communications (Col. 1 line 8-10) in a "virtual private network" (Col. 2 line 22) having three or more network nodes coupled with a larger network (Fig.1), where the method comprises identifying a current path from a source node to a destination node, identifying a detour path comprising a first and second path (Col. 2 line 13-15 and 24-25), and converting the detour path into an

alternate path, which includes at least one current path segment that is different from the alternate path segments (Col. 8 lines 15-16). [Claims 10,18] Pieda also discloses storing values (Col. 5 lines 64-65) for one or more attributes of the current and alternate path, and selecting an alternate path if the current path is "unsuitable" (Col. 7 lines 22-23).

Pieda fails to disclose a packet-switched network receiving a service specification for a network communication and using either the current path or alternate path based on the service specification.

Rhodes discloses [Claims 17,18] a "packet-switched network" (Paragraph [0003]) receiving [Claims 10,17,18] a "service specification" and selecting either the current path or alternate path based on the service specification (Paragraph [0004]). Pieda and Rhodes are analogous because they both relate to communication routes.

It would have been obvious to one with ordinary skill in the art at the time of the invention to modify Pieda to use a packet-switched network that receives a service specification and chooses a path based on the specification as taught by Rhodes in order to provide more efficient network traffic flow.

Re claim 11 and 13:

Pieda discloses storing values (Col. 5 lines 64-65) for one or more attributes of the current and alternate path, where the attributes [Claim 13] may be jitter and latency (Col. 6 lines 11-15).

7. Claims 8,9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pieda in view of Rhodes as applied to claims 4 and 10 above, and further in view of Graves (US App. 09/893,493).

Re claims 8,9, and 12:

As discussed above, Pieda in view of Rhodes meets all the claim limitations, but fails to disclose identifying when a certain bandwidth capacity has been reached and rerouting traffic between two or more paths based on the bandwidth capacity.

[Claims 8,9,12] Graves discloses "identifying when occupancy of a segment becomes greater than a predefined percentage of bandwidth" and rerouting the "flow" that uses the segment (Paragraph [0157]) by [Claim 9] dividing the flow between two or more paths (Paragraph [0157]). Pieda and Graves are analogous because they both relate to communication network.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Pieda to include means for identifying that a certain bandwidth capacity has been reached and accordingly rerouting traffic between two or more paths as taught by Graves in order to prevent network congestion and bottlenecking.

8. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pieda in view of Rhodes as applied to claim 13 above, and further in view of Scott (US 6,816,464).

As discussed above, Pieda in view of Rhodes meets all the claim limitations, but fails to disclose using average delay and jitter values that vary with an indication of length.

Scott discloses averages of "jitter and latency" (Col. 3 lines 12-15) that vary with an "indication of length" for the network communication (Col. 1 lines 26-28).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Pieda in view of Rhodes to use average jitter and latency values that vary with an indication of length as taught by Scott in order to have more accurate jitter and latency measurements.

9. Claims 19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pieda in view of Rhodes and further in view of Hultgren (US 6,134,589).

Re claim 19:

Pieda discloses a machine-implemented method of managing communications (Col. 1 line 8-10) in a "virtual private network" (Col. 2 line 22) having three or more network nodes coupled with a larger network (Fig.1), where the method comprises identifying a current path from a source node to a destination node, identifying a detour path comprising a first and second path (Col. 2 line 13-15 and 24-25), and converting the detour path into an alternate path, which includes at least one current path segment that is different from the alternate path segments (Col. 8 lines 15-16). Pieda also discloses storing values

(Col. 5 lines 64-65) for one or more attributes of the current and alternate path, and selecting an alternate path if the current path is "insufficient" (Col. 7 lines 22-23).

Pieda fails to disclose receiving a service specification for a network communication and using either the current path or alternate path based on the service specification, three or more nodes coupled with a connecting network to three or more separate networks, and a traffic management server coupled with a network.

Rhodes discloses receiving a "service specification" and selecting either the current path or alternate path based on the service specification (Paragraph [0004]). Pieda and Rhodes are analogous because they both relate to communication routes.

It would have been obvious to one with ordinary skill in the art at the time of the invention to modify Pieda to receive a service specification and choose a path based on the specification as taught by Rhodes in order to provide more efficient network traffic flow.

Hultgren discloses three or more nodes coupled to three or more networks with a connecting network (Fig. 1 and Col. 1 lines 57-61), and a "traffic management server" coupled to the network (Col.1 lines 58-61). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Pieda in view of Rhodes to have three or more nodes coupled to three or more networks with a connecting network and a traffic management server as

taught by Hultgren in order to centralize control of the nodes and have communication between the different networks.

10. Claims 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pieda in view of Rhodes and Hultgren as applied to claims 19 and 21 above, and further in view of Graves.

Hultgren discloses nodes configured to track "path occupancy per flow" (Col. 4 lines 12-21).

As discussed above, Pieda in view of Rhodes and Hultgren meets all the claim limitations, but fails to disclose identifying when a certain bandwidth capacity has been reached and rerouting traffic based on the bandwidth capacity.

Graves discloses "identifying when occupancy of a segment becomes greater than a pre-defined percentage of bandwidth" and rerouting the "flow" that uses the segment (Paragraph [0157]). Pieda and Graves are analogous because they both relate to communication network.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Pieda to include a means of identifying reaching a certain bandwidth capacity and accordingly rerouting traffic as taught by Graves in order to prevent network congestion and bottlenecking.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Riggan (US 5,898,673) is cited for showing identification of when

bandwidth usage becomes greater than a predefined percentage of the bandwidth capacity, rerouting the flow based on bandwidth, and a network manager.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad S. Adhami whose telephone number is (571) 272-8615. The examiner can normally be reached on Monday-Friday 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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JOHN PEZZLO
PRIMARY EXAMINER